(2)

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

TELEPHONE SWITCHING
CAREER LADDER

AFSC 362X1

AFPT 90-362-797

MARCH 1990

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
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PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Telephone Switching career ladder (AFSC 362X1). Authority for conducting occupational surveys is contained in AFR 35-2. Computer products upon which this report is based are available for use by operations and training officials.

The survey instrument was developed by First Lieutenant Kara Worthington, Inventory Development Specialist, with computer programming support furnished by Ms Rebecca Hernandez. Ms Raquel A. Soliz provided administrative support. Mrs Joan T. Brooks, Occupational Analyst, analyzed the data and wrote the final report. This report has been reviewed and approved for release by Lieutenant Colonel Charles D. Gorman, Chief, Airman Analysis Branch, Occupational Analysis Division, USAF Occupational Measurement Center.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Division (OMY), Randolph AFB, Texas 78150-5000.

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SUMMARY OF RESULTS

1. Survey Coverage: The Telephone Switching career ladder was surveyed to obtain current task and equipment data for use in examining current training programs. Survey results are based on responses from 628 military personnel (63 percent of all assigned 3-, 5-, and 7-skill level 362X1 career ladder personnel).

2. Career Ladder Structure: Overall, six jobs were identified in the AFSC 362X1 specialty, with nearly two-thirds of the AFSC 362X1 personnel performing general maintenance. The remaining five jobs involved digital maintenance, engineering and installation functions, training, supervisory and administration, and job control functions.

3. Career Ladder Progression: Personnel in the Telephone Switching career ladder show a typical pattern of career ladder progression. The 3- and 5-skill level personnel perform essentially a technical job. At the 7-skill level, personnel are first-line supervisors, performing a mixture of technical and supervisory tasks. Specialty descriptions in AFR 39-1 provide a broad and accurate overview of tasks and duties performed, within the career ladder.

4. Training Analysis: The Specialty Training Standard (STS) dated 9 February 1990, is generally well supported by survey data. A few elements, however, require further review due to nonsupporting data. In addition, several tasks not matched to the STS require evaluation for possible inclusion in the document.

5. Job Satisfaction: Overall, 362X1 respondents are generally satisfied with their jobs. Most specialty jobs and TAFMS groups feel their talents and training are well utilized. Comparative analysis with mission equipment maintenance personnel surveyed in 1988 shows a somewhat higher job satisfaction for the AFSC 362X1 career ladder, while comparison with AFSC 362X1 personnel surveyed in 1978 shows a less positive view of job satisfaction for the previous survey.

6. Implications: The AFSC 362X1 career ladder is very homogeneous. The AFR 39-1 job descriptions are adequate for all skill levels. Most areas of the STS are supported by survey data. Areas not supported and tasks not referenced should be reviewed by training personnel for possible inclusion in revision to this document.

OCCUPATIONAL SURVEY REPORT
TELEPHONE SWITCHING CAREER LADDER
(AFSC 362X1)

INTRODUCTION

This is a report of an occupational survey of the Telephone Switching career ladder completed by the Occupational Analysis Division, USAF Occupational Measurement Center. This survey was requested by the 3700th Technical Training Wing, Sheppard Technical Training Center, to obtain current task and equipment data for use in examining current training programs. The last survey results pertaining to this career ladder were published in March 1978.

Background

As described in AFR 39-1 Specialty Descriptions, personnel in this career ladder are responsible for installing, removing, refurbishing, maintaining, testing, and troubleshooting telephone switching systems, T-carrier, fiber-optic modems, and multiplexes and associated hardware supporting systems for command, control, communications, and computers.

Initial 3-skill level training for AFSC 362X1 personnel is provided in a 21-week, 4-day course at Sheppard AFB TX. The first 11 weeks are spent on electronic principles (EP). The Apprentice Telephone Switching Specialist course, J3ABR36231-000, includes instruction on telephone switching principles, relay operation, principles of wire transmission, circuit analysis, testing, and maintenance. Because of new equipment in the field, and anticipated changes to the career field as a result of this equipment, this course is presently on hold and a total rewrite is being accomplished. The revised course will focus on the newer digital switching equipment and will eliminate instruction on older switching systems such as X-Y, step-by-step, and AUTOVON. The estimated start date for the revised course is April 1990. Entry into the career ladder currently requires an Armed Forces Vocational Aptitude Battery (ASVAB) Mechanical score of 46. Approximately 25 classes are conducted each year to produce 202 graduates.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-362-797, dated May 1989. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, tasks from the previous survey instrument, and data from the last Occupational Survey Report (OSR). The preliminary task list was refined and validated

through personal interviews with 55 subject-matter experts selected to cover a variety of major commands (MAJCOM) and varying telephone switching functions at the following locations:

BASE	REASON FOR VISIT
Sheppard AFB TX	Location of ATC technical training courses
Keesler AFB MS	Inside plant functions
Eglin AFB FL	Switching systems functions
Griffiss AFB NY	Engineering installation and switching systems functions
Andrews AFB DC	Digital switching systems functions
Langley AFB VA	Digital switching systems functions
Kelly AFB TX	Survey and digital switching systems functions
Vandenberg AFB TX	Task validation
Kirtland AFB NM	Survey and electrical switching systems functions

In addition to interviews at the above locations, members of an SKT development team on temporary duty (TDY) to the USAF Occupational Measurement Center were interviewed. These members represented Vandenberg, Sheppard, and Minot AFBs. Other personnel contacted included Air Force Military Personnel Center (AFMPC) classification, functional and resource managers, the Air Force functional manager, and the HQ ATC Training Staff Officer for AFSC 362X1.

The resulting job inventory contained a comprehensive listing of 702 tasks grouped under 21 duty headings, with a background section requesting such information as grade, duty title, time in present job, time in service, job satisfaction, and equipment maintained in performance of an incumbent's job.

Survey Administration

From May 1989 through September 1989, Consolidated Base Personnel Offices (CBPO) in operational units worldwide administered the inventory to job incumbents holding DAFSCs 36231, 36251, or 36271. Personnel eligible for the survey consisted of the total assigned population, excluding the following:

(1) hospitalized personnel; (2) personnel in transition for a permanent change of station; (3) personnel retiring during the time inventories were administered to the field; and (4) personnel in their job less than 6 weeks. Participants were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Human Resources Laboratory (AFHRL).

Each individual who completed the inventory first filled in an identification and biographical information section and then checked each task performed in his or her current job. After checking all tasks performed, each individual then rated each of these tasks on a 9-point scale showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount spent).

To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

Personnel were selected to participate in this survey so as to insure an accurate representation across major commands (MAJCOM) and military paygrade. Table 1 reflects the percentage distribution, by MAJCOM, of assigned 362X1 personnel as of May 1989. The 628 respondents in the final sample represent 63 percent of the total assigned AFSC 362X1 personnel. Table 2 reflects the percentage distribution by paygrade groups. As shown by both tables, the survey sample accurately reflects the overall 362X1 population.

Task Factor Administration

In addition to completing the job inventory, selected senior 362X1 personnel (generally E-6 or E-7 technicians) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). The TE and TD booklets were processed separately from the job inventories. This information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty (TD). Each individual completing a TD booklet was asked to rate all of the tasks on a 9-point scale (from extremely low to extremely high) as to the relative difficulty of each task in the inventory. Difficulty is defined as the length of time required by the average incumbent to learn to do the task. TD data were independently collected from 51 experienced 7-skill level personnel stationed worldwide. Interrater agreement among these raters was acceptable. Ratings were standardized so tasks have an average difficulty

TABLE 1

AFSC 362X1 MAJCOM DISTRIBUTION

MAJCOM	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
AF COMMUNICATIONS COMMAND (AFCC)	95	93
AIR TRAINING COMMAND (ATC)	1	1
TACTICAL AIR COMMAND (TAC)	1	2
UNITED STATES AIR FORCES IN EUROPE (USAFE)	2	**
OTHER	1	2

** Denotes less than 1 percent

Total Assigned:	1000*
Total Eligible for Survey:	785**
Total in Sample:	628
Percent of Eligible in Sample:	80%
Percent of Assigned in Sample:	63%

* Assigned strength as of May 1989
** Excludes those in PCS, retirement, discharge, or hospital status, and those with less than 6 weeks on the job

NOTE: Columns may not add to 100 percent due to rounding

TABLE 2

PAYGRADE DISTRIBUTION OF AFSC 362X1
SURVEY SAMPLE

PAYGRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
AIRMAN	18	17
E-4	38	39
E-5	24	26
E-6	11	11
E-7	7	6

* Assigned strength as of May 1989
** Less than 1 percent

NOTE: Columns may not add to 100 percent due to rounding

rating of 5.00, with a standard deviation of 1.00 The resulting data yield essentially a rank ordering of tasks indicating the degree of difficulty for each task in the inventory.

Training Emphasis (TE). Individuals completing TE booklets were asked to rate tasks on a 10-point scale (from no training required to extremely high amount of training required). TE is a rating of which tasks require structured training for first-term personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. TE data were independently collected from 41 experienced 7-skill level personnel stationed worldwide. As with TD ratings, the interrater reliability was also acceptable. In this specialty, tasks rated high in TE have ratings of 3.42 and above, with an average rating of 2.05. As was discussed in the TD section above, TE rating data may also be used to rank order tasks indicating those tasks which senior NCOs in the field consider the most important for the first term airmen to know.

When used in conjunction with the primary criterion of percent members performing, TD and TE ratings can provide insight into first-term personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting AFS entry-level jobs.

SPECIALTY JOBS
(Career Ladder Structure)

A USAF occupational analysis begins with an examination of the career ladder structure. The structure of jobs within the Telephone Switching career ladder was examined on the basis of similarity of tasks performed and the percent of time spent ratings provided by job incumbents, independent of other specialty background factors.

Each individual in the sample performs a set of tasks called a job. For the purpose of organizing individual jobs into similar units of work, an automated job clustering program is used. This hierarchical grouping program is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system for job analysis. Each individual job description (all the tasks performed by that individual and the relative amount of time spent on those tasks) in the sample is compared to every other job description in terms of tasks performed and the relative amount of time spent on each task in the job inventory. The automated system is designed to locate the two job descriptions with the most similar tasks and percent time ratings and combine them to form a composite job description. In successive stages, new members are added to initial groups, or new groups are formed based on the similarity of tasks performed and similar time ratings in the individual job descriptions.

The basic identifying group used in the hierarchical job structuring process is the Job Type. When there is a substantial degree of similarity between Job Types, they are grouped together and identified as a Cluster.

Specialized Job Types too dissimilar to fit within a Cluster are labeled Independent Job Types (IJT). The job structure resulting from this grouping process (the various jobs within the career ladder) can be used to evaluate the accuracy of career ladder documents (AFR 39-1 Specialty Descriptions and Specialty Training Standards) and to gain a better understanding of current utilization patterns. The above terminology will be used in the discussion of the 362X1 career ladder structure.

Overview of Specialty Jobs

Responses from the 362X1 personnel in the survey sample indicate a career ladder where most people perform a rather large number of tasks in common. Four clusters and two independent job types were identified within the survey sample. Based on task similarity and relative time spent, the division of jobs performed by 362X1 personnel is illustrated in Figure 1, and a listing of those jobs is provided below. The relative time spent by respondents in each duty is presented in Table 3. The stage (ST) number shown beside each title is a reference to computer printed information; the number of personnel in each group (N) is also shown.

I. GENERAL MAINTENANCE CLUSTER (ST0038, N=388)

II. ENGINEERING AND INSTALLATION CLUSTER (ST034, N=80)

III. DIGITAL SWITCHING IJT (ST0103, N=6)

IV. TRAINING IJT (ST072, N=5)

V. SUPERVISORY AND ADMINISTRATION CLUSTER (ST013, N=69)

VI. JOB CONTROL CLUSTER (ST047, N=15)

The respondents forming these groups account for 89 percent of the survey sample. The remaining 11 percent were performing tasks or series of tasks which did not group with any of the defined jobs. Job titles given by respondents which were representative of these personnel included Phone Surveyor, Engineering Technician, Circuits Frequency NCO, AUTOVON Evaluator, Base Communications Surveyor, and Assistant Wire Chief.

Table 4 displays selected background information, such as DAFSC distributions across each group, predominant paygrades, average months in service (i.e., TAFMS), and average number of tasks performed. For example, Table 4 shows the General Maintenance Cluster has 388 members, mostly at the 5-skill level, in paygrade E-4, and they perform an average of 137 tasks.

AFSC 362X1CAREER LADDER JOBS

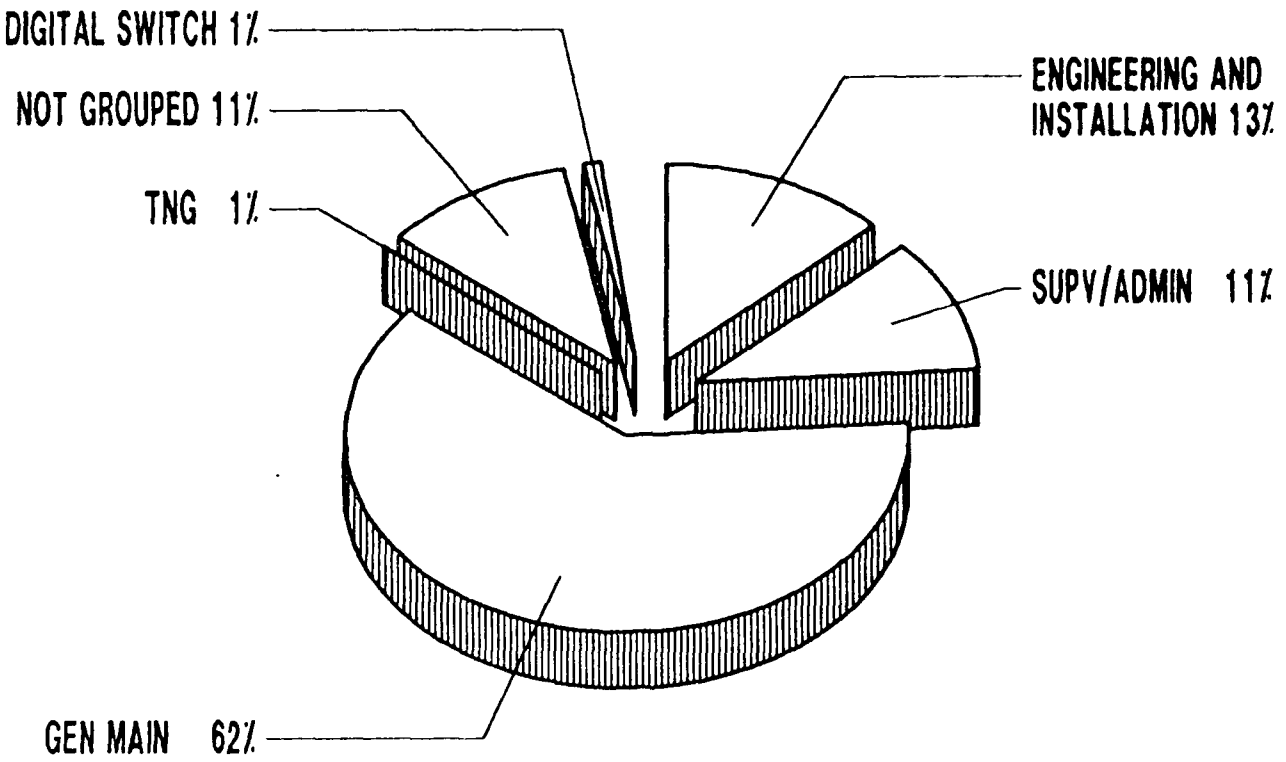

FIGURE 1

TABLE 3

DISTRIBUTION OF DUTY TIME SPENT BY MEMBERS OF CAREER LADDER
(RELATIVE PERCENT OF JOB TIME)

DUTIES	GENERAL MAINT (N=388)	E&I (N=80)	DIGITAL MAINT (N=6)	TNG (N=5)	SUPV/ ADMIN (N=69)	JOB CONTROL (N=15)
A ORGANIZING AND PLANNING	5	3	5	6	21	24
B DIRECTING AND IMPLEMENTING	2	2	2	*	14	8
C INSPECTING AND EVALUATING	3	2	1	5	24	3
D TRAINING	3	2	3	46	10	7
E PERFORMING ADMINISTRATIVE OR SUPPLY TASKS	18	15	12	19	16	20
F PERFORMING GENERAL MAINTENANCE	11	18	14	5	3	4
G MAINTAINING SYSTEM COMPONENTS	9	6	*	8	*	0
H ISOLATING MALFUNCTIONS IN GENERAL EQUIPMENT OR CIRCUITS	9	7	4	4	*	0
I MAINTAINING CABLES, WIRING, AND ASSOCIATED EQUIPMENT	6	24	*	1	*	0
J MAINTAINING SPECIAL CIRCUITS	7	2	0	0	0	0
K MAINTAINING HANDSETS, HEADSETS, AND TELEPHONES	*	*	*	*	*	0
L MAINTAINING FIBER OPTIC CABLE SYSTEMS	*	3	0	0	*	0
M PERFORMING DISPATCH TASKS	*	2	*	0	*	9
N PERFORMING CORROSION CONTROL TASKS	3	3	*	0	4	0
O PERFORMING SURVEY OR JOB CONTROL TASKS	2	*	1	0	*	21
P PROCESSING LEASED OR GOVT-OWNED TELEPHONE EQUIPMENT	*	*	0	0	*	1
Q PERFORMING SWITCH TRANSLATION TASKS	2	*	4	0	*	0
R MAINTAINING TELEPHONE SWITCHING SYSTEMS	6	2	0	6	*	*
S PERFORMING DIGITAL OR ELECTRONIC SWITCHING SYSTEMS TASKS	5	*	27	0	*	0
T MAINTAINING DIGITAL OR ELECTRONIC SWITCHING SYSTEMS TASKS	7	*	24	0	*	0
U PERFORMING PROJECT OR MOBILE DEPOT MAINTENANCE	*	8	0	0	1	2

* Denotes less than 1 percent

TABLE 4

SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	GENERAL MAINTENANCE PERSONNEL (STG38)	ENGINEERING & INSTALLATION PERSONNEL (STG34)	DIGITAL SWITCHING PERSONNEL (STG103)	TECHNICAL TRAINING INSTRUCTORS (STG72)	SUPERVISION/ ADMINISTRATION PERSONNEL (STG13)	JOB CONTROL PERSONNEL (STG47)
NUMBER IN GROUP	388	80	6	5	69	15
PERCENT OF SAMPLE	62%	13%	*	*	11%	*
PERCENT CONUS	57%	74%	50%	100%	54%	67%
DAFSC DISTRIBUTION (PERCENT)						
62331	12%	14%	33%	0%	0%	7%
62351	71%	66%	67%	60%	13%	80%
62371	17%	20%	0%	40%	87%	13%
AVERAGE PAYGRADE	E-4	E-4	E-4	E-5	E-6	E-4
AVERAGE MONTHS IN PRESENT JOB	29	28	19	33	24	12
AVERAGE TICF (MOS)	67	67	59	115	161	54
AVERAGE TAFMS (MOS)	74	73	77	118	176	62
PERCENT IN FIRST ENLISTMENT	38%	43%	44%	20%	3%	47%
PERCENT SUPERVISING	40%	25%	17%	0%	55%	7%
AVERAGE NUMBER OF TASKS PERFORMED	137	87	73	46	34	22

* Denotes less than 1 percent

Group Descriptions

The following paragraphs contain brief descriptions of the clusters and independent job types identified through the career ladder structure analysis. Representative tasks for all the groups are contained in Appendix A.

I. GENERAL MAINTENANCE CLUSTER (ST038). Representing the largest group in the career ladder structure (388 members and 62 percent of the total sample), these incumbents form the technical core of the Telephone Switching career ladder. Personnel forming this group perform a broad job encompassing the full range of the technical career ladder functions. Seventy-five percent of their relative job time is devoted to tasks and duties associated with administration or supply tasks, general maintenance tasks, isolating malfunctions in general equipment, and maintaining systems components, special circuits, and digital or electronic switching systems. Of the average 137 tasks performed (highest number of any group identified), typical tasks include:

terminating jumpers
removing or replacing jumpers
wrapping or unwrapping terminals
annotating AFTO Forms 224 (Cable Record)
annotating AFTO Forms 2447 (Telephone Trouble Log)
cross-connecting intermediate or mainframes
isolating malfunctions to jumpers
measuring voltage levels
isolating malfunctions to direct lines
isolating malfunctions to intermediate or mainframes

Within the cluster, eight job variations were noted. Four (Senior Special Circuits, Junior Special Circuits, Senior General Maintenance, and Junior General Maintenance) differed primarily because of the experience levels of the members and the increasing amount of supervisory activity occurring. The remaining variations (Digital Maintenance, NCOIC, Systems Components, and Supply), although dealing with a variety of general maintenance tasks, were identified as a result of the amount of time spent focusing on digital maintenance, systems components, supply, and supervisory tasks.

Members of this cluster report an average grade of E-4 and an average of 6 years' time in the service. Forty-five percent are still in their first enlistment, and 71 percent report holding a 5-skill level DAFSC.

II. ENGINEERING AND INSTALLATION (E AND I) CLUSTER (ST034). All 80 members of this group spend 57 percent of their time maintaining cables, wiring, and associated equipment; performing general maintenance; and performing administrative or supply tasks. Comprised predominantly of 5-skill level airmen (59 percent), the focus of activity is toward tasks pertaining to construction and initial installation of cables. Representative tasks for this group include:

marking, cutting, stripping and butting cables
fanning cables
wire-wrapping or lacing wires
terminating cables by constructing amphenol connectors
terminating jumpers
securing cables
removing or replacing jumpers
wire-wrapping or lacing cables
forming cables
drilling holes for mountings or cable runs

III. DIGITAL SWITCHING IJT (ST103). The six members forming this independent job group are differentiated from the overall sample because of their specialization on tasks pertaining to digital systems. Members spend 51 percent of their relative duty time on tasks pertaining to performing and maintaining digital or electronic switching tasks. An additional 26 percent of their relative duty activity is spent in the performance of general maintenance and administrative tasks. Typical digital and electronic switching tasks include:

operating maintenance area positions
reviewing trunk reports
checking diagnostic failures using video display units (VDU)
taking software images
isolating malfunctions to central message controllers
isolating malfunctions to maintenance trunk modules
reviewing system logs
isolating malfunctions to input/output controllers (IOC)
isolating malfunctions to channel banks

With an average of almost 5 years experience in the career ladder, the average grade for military personnel is E-4.

IV. TRAINING IJT (ST072). Four of the five personnel forming this independent job are instructors assigned to the technical training center at Sheppard AFB TX. With over 9 years in the career field (average grade is E-5), group members responded to some technically oriented tasks performed while demonstrating telephone switching procedures, as well as those training tasks normally performed in an academic classroom or mock-up environment. Examples of tasks which distinguish the group include:

scoring tests
preparing lesson plans
writing test questions
administering tests
conducting resident course classroom training
evaluating progress of resident course students

V. SUPERVISORY AND ADMINISTRATION CLUSTER (ST013). This cluster of 69 personnel represents 11 percent of the survey sample. Spending 61 percent of their relative job time performing tasks pertaining to general supervisory, managerial, and systems inspection duties, 55 percent of these members report supervisory responsibilities. An additional 14 percent of their job time is committed to tasks involving administrative functions. Personnel in this group reflect the highest experience level of all the groups identified (an average of 13 years in the career field). With almost no technical task performance, typical supervisory and managerial-type tasks performed include:

reviewing correspondence
evaluating inspection report findings or procedures
interpreting policies, directives, or procedures for personnel
writing staff studies or special reports
preparing briefings
coordinating quality control (QC) or quality assurance (QA) inspections with inspectors
scheduling inspections

Within this cluster is one job variation: Quality Assurance (QA). Thirteen percent of the QA job time is spent inspecting corrosion control.

VI. JOB CONTROL CLUSTER (ST047). The 15 members of this cluster spend 45 percent of their total job time performing job control tasks and planning and organizing. Some of the most representative tasks performed by members of this job include:

assigning job control numbers
coordinating troubleshooting with inside and outside plant crews
updating organizational charts or status boards
preparing briefings
coordinating jobs, outages, or maintenance with job control

Comparisons of Career Ladder Structure

Four clusters and two independent job types were identified in the career ladder structure analysis. Three clusters and one independent job type were directly involved in the performance of the various technical duties of the career ladder. The remaining cluster and independent job type were oriented toward supervisory, training, and planning activities. No noteworthy degree of specialization within the career ladder was identified. The career ladder appears to be very homogeneous, with the vast majority of personnel performing essentially a large set of tasks. Thus, the specialty job analysis and the survey data tend to support the current career ladder structure.

Comparison of Current Group Descriptions to Previous Survey

The results of the specialty job analysis were compared to those of Occupational Survey Report (OSR) AFPT 90-362-797, TELEPHONE SWITCHING REPAIRMAN SPECIALTIES, dated March 1978. Table 5 displays a comparison of the Telephone Switching specialty jobs identified in the two studies. After reviewing the tasks comprising the jobs identified in 1978, most of the groups could be linked with similar task performance by 1989 sample groups. The appearance of differences (i.e., some of the specific job titles) is a surface difference only and can be attributed to modifications to the task list or to the analytical approach used.

Aside from some minor variations involving small numbers of personnel, the vast majority of the current sample could be matched to 362X1 jobs identified in 1978, thus displaying a relatively stable career ladder over time.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS), reflect what career ladder personnel are actually doing in the field.

A comparison of the duty and task performance between DAFSCs 36231 and 36251 indicates that, while there are some minor differences, by and large, the jobs they perform are essentially the same. Therefore, they will be discussed as a combined group in this report. Nine-skill level and CEM code personnel in the 362XX career field were not surveyed and will not be discussed in this report.

TABLE 5

JOB SPECIALTY COMPARISONS BETWEEN CURRENT AND 1978 SURVEY

CURRENT SURVEY (N=628)	PERCENT OF SAMPLE	1978 SURVEY (N=777)	PERCENT OF SAMPLE
GENERAL MAINTENANCE CLUSTER (N=388)	62	CONTROL OFFICE SWITCHING EQUIPMENT MAINTENANCE PERSONNEL (N=374)	48
ENGINEERING AND INSTALLATION CLUSTER (N=80)		TELEPHONE SWITCHING SYSTEMS INSTALLATION PERSONNEL (N=110)	14 13
TECHNICAL TRAINING IJT (N=5)	*	TECHNICAL TRAINING INSTRUCTOR (N=20)	3
SUPERVISION AND ADMINISTRATION CLUSTER (N=69)	11	MANAGEMENT AND SUPERVISION PERSONNEL (N=185)	24
JOB CONTROL CLUSTER (N=15)	*	ADMINISTRATION AND JOB CONTROL SPECIALIST (N=10)	*
DIGITAL SWITCHING IJT (N=6)	*	NOT IDENTIFIED	-

* Denotes less than 1 percent

The distribution of skill-level groups across the career ladder jobs is displayed in Table 6, while Table 7 offers another perspective by displaying the relative percent time spent on each duty across the skill-level groups.

A typical pattern of progression is noted within the 362X1 career ladder, with personnel at the lower skill levels spending most of their time on technical tasks, with more of their relative time being spent on duties involving supervisory, managerial, and administrative tasks (see Table 7, Duties A, B, C, D, and E) as they move upward to the 7-skill level. It is also obvious, however, that 7-skill level personnel are still involved with technical task performance as will be pointed out in the specific skill-level group discussions below.

Skill Level Descriptions

DAFSCs 36231/36251. The 460 airmen in the 3- and 5-skill level group (representing 73 percent of the survey sample) perform an average of 108 tasks, with 28 tasks accounting for 50 percent of their job time. Performing a highly technical job, 86 percent of their relative duty time is devoted to tasks covering most general maintenance activities, as well as systems inspection and telephone equipment operation and maintenance. As shown in Table 6, 70 percent of these airmen are working in the General Maintenance job, with an additional 14 percent in the E and I job. Table 8 displays selected representative tasks performed by a majority of these airmen and Table 9 shows tasks which best differentiate 3- and 5-skill level personnel from the 7-skill level members.

DAFSC 36271. Seven-skill level personnel, representing 27 percent of the survey sample, perform an average of 98 tasks, with 13 tasks accounting for 50 percent of their relative job time. Fifty-five percent of the group report supervisory responsibilities, and 64 percent of their relative job time is spent on tasks in the usual supervisory, managerial, training, and administrative duties (see Table 7). A review of Table 6 shows that 51 percent of the 7-skill level personnel are found in the jobs that were identified as technical or planning oriented (GENERAL MAINTENANCE and L and I). Only 36 percent grouped in the Supervisory and Administration job. While the display of tasks in Table 10 clearly shows these senior personnel are responsible for supervision in the shops, it also reflects the range and scope of the job, in that relatively high percentages of the group are also performing a wide variety of day-to-day general telephone switching tasks. Table 10 shows tasks representative of the group.

Summary

Career ladder progression is evident, with personnel at the 3- and 5-skill levels spending the vast majority of their job time performing technical tasks. At the 7-skill level, although members still spend almost two-thirds of their relative duty time on general technical telephone switching functions, a shift toward supervisory functions is quite clear.

TABLE 6

DISTRIBUTION OF SKILL LEVEL PERSONNEL ACROSS CAREER LADDER JOBS

JOBS		DAFSC 36231/36251 (N=460) NUMBER	PERCENT	DAFSC 36271 (N=168) NUMBER	PERCENT
1	GENERAL MAINTENANCE	322	70%	66	39%
2	ENGINEERING & INSTALLATION	64	14%	20	12%
3	DIGITAL SWITCHING	6	1%	0	0%
4	TRAINING	3	1%	2	1%
5	SUPERVISORY/ADMINISTRATION	9	2%	60	36%
6	JOB CONTROL	13	3%	2	1%
7	NOT GROUPED	43	9%	16	10%

NOTE: Columns may not add to 100 percent due to rounding

TABLE 7

RELATIVE PERCENT TIME SPENT PERFORMING DUTIES
BY DAFSC GROUPS

DUTIES		DAFSC 36231/36251 (N=460)	DAFSC 36271 (N=168)
A	ORGANIZING AND PLANNING	5	14
B	DIRECTING AND IMPLEMENTING	2	8
C	INSPECTING AND EVALUATING	3	14
D	TRAINING	4	8
E	PERFORMING ADMINISTRATIVE OR SUPPLY TASKS	18	18
F	PERFORMING GENERAL MAINTENANCE	12	8
G	MAINTAINING SYSTEM COMPONENTS	8	3
H	ISOLATING MALFUNCTIONS IN GENERAL EQUIPMENT OR CIRCUITS	8	4
I	MAINTAINING CABLES, WIRING, AND ASSOCIATED EQUIPMENT	8	3
J	MAINTAINING SPECIAL CIRCUITS	6	2
K	MAINTAINING HANDSETS, HEADSETS, AND TELEPHONES	1	*
L	MAINTAINING FIBER OPTIC CABLE SYSTEMS	1	*
M	PERFORMING DISPATCH TASKS	1	1
N	PERFORMING CORROSION CONTROL TASKS	3	3
O	PERFORMING SURVEY OR JOB CONTROL TASKS	2	1
P	PROCESSING LEASED OR GOVT-OWNED TELEPHONE EQUIPMENT	1	1
Q	PERFORMING SWITCH TRANSLATION TASKS	1	1
R	MAINTAINING TELEPHONE SWITCHING SYSTEMS		2
S	PERFORMING DIGITAL OR ELECTRONIC SWITCHING SYSTEMS TASKS	4	3
T	MAINTAINING DIGITAL OR ELECTRONIC SWITCHING SYSTEMS TASKS	5	3
U	PERFORMING PROJECT OR MOBILE DEPOT MAINTENANCE	2	2

* Denotes less than 1 percent

TABLE 8

REPRESENTATIVE TASKS PERFORMED BY DAFSC 36231/36251
SKILL-LEVEL PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING
F253	WRAP OR UNWRAP TERMINALS	80
I357	REMOVE OR REPLACE JUMPERS	80
I367	TERMINATE JUMPERS	80
E133	CLEAN FACILITIES OR WORK AREAS	80
H322	ISOLATE MALFUNCTIONS TO JUMPERS	76
F208	CROSS-CONNECT INTERMEDIATE OR MAINFRAMES	68
G278	MEASURE VOLTAGE LEVELS	66
E111	ANNOTATE AFTO FORMS 224 (CABLE RECORD)	65
E107	ANNOTATE AF FORMS 2447 (TELEPHONE TROUBLE LOG)	65
G287	REMOVE OR REPLACE FUSES	64
E110	ANNOTATE AFTO FORMS 121 (TELEPHONE EQUIPMENT LINE RECORD)	62
E112	ANNOTATE AFTO FORMS 226 (MONTHLY STORAGE BATTERY RECORD)	62
N483	INSPECT FRAMES FOR CORROSION	60
I369	WIRE-WRAP OR LACE WIRES	60
N479	INSPECT BATTERIES FOR CORROSION	59
G277	MEASURE RESISTANCE LEVELS	56
H319	ISOLATE MALFUNCTIONS TO INTERMEDIATE OR MAINFRAMES	56
H315	ISOLATE MALFUNCTIONS TO DIRECT LINES	55
F222	PERFORM PMI ON INTERMEDIATE OR MAINFRAMES	55
E148	COMPLETE AFTO FORMS 376 (CIRCUIT LAYOUT RECORD/TROUBLE REPORT)	54
H318	ISOLATE MALFUNCTIONS TO INSIDE WIRING	53
F235	REMOVE OR REPLACE INSIDE WIRING	52
F244	SERVICE BATTERIES	52
A6	COORDINATE JOBS, OUTAGES, OR MAINTENANCE WITH JOB CONTROL	52
F218	OPERATE PRINTERS	52
H309	ISOLATE MALFUNCTIONS TO CABLES	51
F213	INTERPRET DRAWINGS, DIAGRAMS, OR SCHEMATICS	49
E163	LOCATE TO NUMBERS AND TITLES USING INDEXES	48

TABLE 9

REPRESENTATIVE TASK DIFFERENCES BETWEEN
DAFSC 36231/36251 AND DAFSC 36271 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 36231/36251 (N=460)	DAFSC 36271 (N=168)	DIFFERENCE
F253	WRAP OR UNWRAP TERMINALS	80	41	39
I357	REMOVE OR REPLACE JUMPERS	80	43	37
H322	ISOLATE MALFUNCTIONS TO JUMPERS	76	39	37
I367	TERMINATE JUMPERS	80	45	35
E133	CLEAN FACILITIES OR WORK AREAS	80	47	33
F235	REMOVE OR REPLACE INSIDE WIRING	52	21	31
F222	PERFORM PMI ON INTERMEDIATE OR MAINFRAMES	55	26	29
F208	CROSS-CONNECT INTERMEDIATE OR MAINFRAMES	68	39	29
I369	WIRE-WRAP OR LACE WIRES	60	32	28
G278	MEASURE VOLTAGE LEVELS	66	38	28
J378	ISOLATE MALFUNCTIONS TO FIRE ALARM CIRCUITS	46	19	27
C66	REVIEW CORRESPONDENCE	14	56	-42
A8	COORDINATE QUALITY CONTROL (QC) OR QUALITY ASSURANCE (QA) INSPECTIONS WITH INSPECTORS	18	59	-41
C53	EVALUATE PERSONNEL FOR COMPLIANCE WITH PERFORMANCE STANDARDS	21	61	-40
A25	SCHEDULE LEAVES OR TEMPORARY DUTY (TDY) ASSIGNMENTS	9	49	-40
C51	EVALUATE INSPECTION REPORT FINDINGS OR PROCEDURES	12	51	-39
C69	REVIEW OR INDORSE AIRMAN PROMOTION REPORTS (APR)	11	48	-37
C49	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	29	65	-36
B40	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR PERSONNEL	14	49	-35
C74	WRITE APRs	27	61	-34
C54	EVALUATE PERSONNEL FOR COMPLIANCE WITH SAFETY	21	54	-33

TABLE 10

REPRESENTATIVE TASKS PERFORMED BY DAFSC 36271
SKILL-LEVEL PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=168)
C49	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	65
C74	WRITE APRs	61
C53	EVALUATE PERSONNEL FOR COMPLIANCE WITH PERFORMANCE STANDARDS	61
A8	COORDINATE QUALITY CONTROL (QC) OR QUALITY ASSURANCE (QA) INSPECTIONS WITH INSPECTORS	59
A13	DETERMINE WORK PRIORITIES	59
C63	PERFORM SELF-INSPECTIONS	58
D77	ANNOTATE ON-THE-JOB TRAINING (OJT) RECORDS	58
C66	REVIEW CORRESPONDENCE	56
B45	SUPERVISE TELEPHONE SWITCHING SPECIALISTS (AFSC 36251)	55
C54	EVALUATE PERSONNEL FOR COMPLIANCE WITH SAFETY STANDARDS	54
A9	DETERMINE EQUIPMENT OR SUPPLY REQUIREMENTS	52
C51	EVALUATE INSPECTION REPORT FINDINGS OR PROCEDURES	51
D84	COUNSEL TRAINERS OR TRAINEES ON TRAINING PROGRESS	50
A22	PLAN WORK ASSIGNMENTS	50
N483	INSPECT FRAMES FOR CORROSION	49
E137	COMPLETE AF FORMS 1297 (TEMPORARY ISSUE RECEIPT)	49
B40	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR PERSONNEL	49
A25	SCHEDULE LEAVES OR TEMPORARY DUTY (TDY) ASSIGNMENTS	49
C69	REVIEW OR INDORSE AIRMAN PROMOTION REPORTS (APR)	48
F213	INTERPRET DRAWINGS, DIAGRAMS, OR SCHEMATICS	48
E133	CLEAN FACILITIES OR WORK AREAS	47
D89	EVALUATE INDIVIDUAL TRAINING NEEDS	47
D79	CONDUCT OJT	46
A20	PLAN DETAILS OR ADDITIONAL DUTIES	46
D90	EVALUATE PROGRESS OF OJT TRAINERS OR TRAINEES	45
N479	INSPECT BATTERIES FOR CORROSION	45
I367	TERMINATE JUMPERS	45

ANALYSIS OF AFR 39-1 SPECIALTY DESCRIPTIONS

Survey data were compared to the AFR 39-1 Specialty Descriptions for Telephone Switching Specialists and Technicians, dated 1 February 1988 and 31 October 1988.

The descriptions for the 3-, 5-, and 7-skill levels were well supported by the findings of the survey. The descriptions depict the highly technical aspect of the job, as well as the increase in supervisory responsibilities previously described in the DAFSC analysis. The descriptions also capture the primary responsibilities of members in the six jobs identified by the job structure analysis process.

TRAINING ANALYSIS

Occupational survey data are one of many sources of information which can be used to assist in the development of a training program relevant to the needs of personnel in their first enlistment. Factors which may be used in evaluating training include the overall description of the job being performed by first-enlistment personnel and their overall distribution across career ladder jobs, percentages of first-job (1-24 month TAFMS) or first-enlistment (1-48 months TAFMS) members performing specific tasks or using certain equipment or materials, as well as training emphasis and task difficulty ratings (previously explained in the SURVEY METHODOLOGY section).

To assist specifically in the examination of the Specialty Training Standard (STS), dated 9 February 1990, technical school personnel from Sheppard Technical Training Center matched job inventory tasks to appropriate sections and subsections of the STS. It was this matching upon which comparison to this document was based. A complete computer listing displaying the percent members performing tasks, training emphasis and task difficulty ratings for each task, along with the STS matchings, has been forwarded to the technical school for their use in further detailed reviews of training documents. A summary of this information is presented below.

First-Enlistment Personnel

In this study, there are 204 members in their first enlistment (1-48 months TAFMS), representing almost one-third (32 percent) of the survey sample. The job performed by these personnel is highly technical in nature and covers the full range of telephone switching technical activities. As displayed in Table 11, approximately 93 percent of their duty time is devoted to technical or administrative task performance. Distribution of these personnel across career ladder jobs is displayed in Figure 2, which shows the vast majority of first-term personnel are involved in day-to-day telephone activities. Table 12 displays just some of the average 137 tasks performed by the

TABLE 11

RELATIVE TIME SPENT ON DUTIES BY FIRST-ENLISTMENT PERSONNEL

	DUTIES	PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	3
B	DIRECTING AND IMPLEMENTING	1
C	INSPECTING AND EVALUATING	1
D	TRAINING	2
E	PERFORMING ADMINISTRATIVE OR SUPPLY TASKS	17
F	PERFORMING GENERAL MAINTENANCE	14
G	MAINTAINING SYSTEM COMPONENTS	10
H	ISOLATING MALFUNCTIONS IN GENERAL EQUIPMENT OR CIRCUITS	9
I	MAINTAINING CABLES, WIRING, AND ASSOCIATED EQUIPMENT	10
J	MAINTAINING SPECIAL CIRCUITS	7
K	MAINTAINING HANDSETS, HEADSETS, AND TELEPHONES	1
L	MAINTAINING FIBER OPTIC CABLE SYSTEMS	*
M	PERFORMING DISPATCH TASKS	2
N	PERFORMING CORROSION CONTROL TASKS	3
O	PERFORMING SURVEY OR JOB CONTROL TASKS	3
P	PROCESSING LEASED OR GOVT-OWNED TELEPHONE EQUIPMENT	1
Q	PERFORMING SWITCH TRANSLATION TASKS	1
R	MAINTAINING TELEPHONE SWITCHING SYSTEMS	7
S	PERFORMING DIGITAL OR ELECTRONIC SWITCHING SYSTEMS TASKS	3
T	MAINTAINING DIGITAL OR ELECTRONIC SWITCHING SYSTEMS TASKS	5
U	PERFORMING PROJECT OR MOBILE DEPOT MAINTENANCE	2

* Denotes less than 1 percent

FIRST ASSIGNMENT AFSC 362X1
CAREER LADDER JOBS

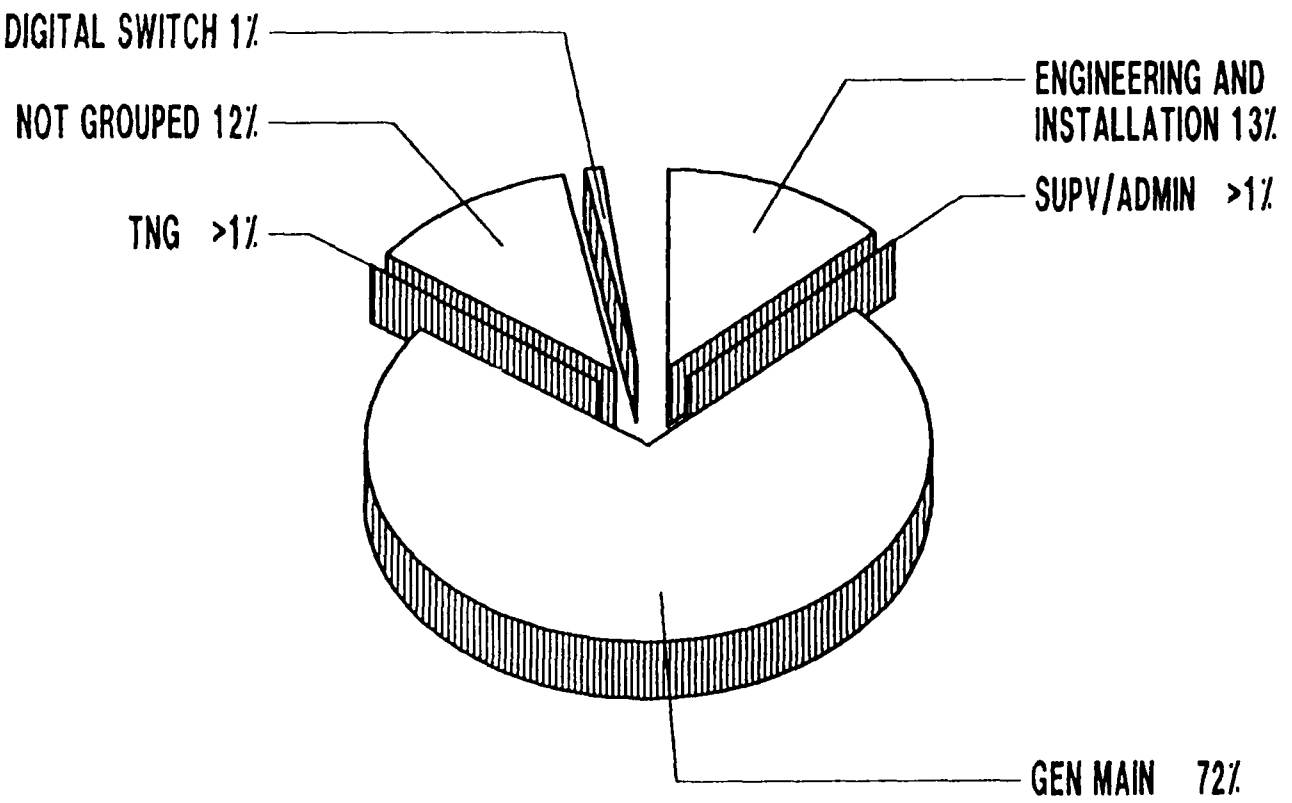

FIGURE 2

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY 362X1 FIRST-ENLISTMENT PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=204)
I357	REMOVE OR REPLACE JUMPERS	86
F253	WRAP OR UNWRAP TERMINALS	85
I367	TERMINATE JUMPERS	85
E133	CLEAN FACILITIES OR WORK AREAS	82
H322	ISOLATE MALFUNCTIONS TO JUMPERS	80
F208	CROSS-CONNECT INTERMEDIATE OR MAINFRAMES	72
E111	ANNOTATE AFTO FORMS 224 (CABLE RECORD)	72
G287	REMOVE OR REPLACE FUSES	68
G278	MEASURE VOLTAGE LEVELS	68
E110	ANNOTATE AFTO FORMS 121 (TELEPHONE EQUIPMENT LINE RECD)	68
E107	ANNOTATE AF FORMS 2447 (TELEPHONE TROUBLE LOG)	66
E112	ANNOTATE AFTO FORMS 226 (MONTHLY STORAGE BATTERY RECD)	66
I369	WIRE-WRAP OR LACE WIRES	63
F222	PERFORM PMI ON INTERMEDIATE OR MAINFRAMES	61
F235	REMOVE OR REPLACE INSIDE WIRING	60
N479	INSPECT BATTERIES FOR CORROSION	60
N483	INSPECT FRAMES FOR CORROSION	60
E156	ESCORT PERSONNEL IN SECURE AREAS	59
H319	ISOLATE MALFUNCTIONS TO INTERMEDIATE OR MAINFRAMES	59
G277	MEASURE RESISTANCE LEVELS	58
H318	ISOLATE MALFUNCTIONS TO INSIDE WIRING	56
E148	COMPLETE AFTO FORMS 376 (CIRCUIT LAYOUT RECORD/TROUBLE REPORT)	55
H315	ISOLATE MALFUNCTIONS TO DIRECT LINES	54
F244	SERVICE BATTERIES	53
J378	ISOLATE MALFUNCTIONS TO FIRE ALARM SYSTEMS	52
F213	INTERPRET DRAWINGS, DIAGRAMS, OR SCHEMATICS	51
R535	OPERATE CENTRAL OFFICE TEST DESKS	51
I358	REMOVE OR REPLACE STRAPS ON TERMINALS	51
0490	ASSIGN JOB CONTROL NUMBERS	50
H304	CROSS-CHECK WIRING	50
I365	TERMINATE CABLES BY SOLDERING	49
J375	ISOLATE MALFUNCTIONS TO DATA LINES	49

group, and is intended to represent a range of tasks across the various types of general maintenance activities.

Further indication of the technical orientation of these airmen is the variety and number of equipment and test equipment worked on or utilized by first-enlistment personnel. Table 13 lists the equipment items worked on by 30 percent or more first-enlistment, 5-, or 7-skill level personnel. Similarly, test equipment used or operated by these airmen is listed in Table 14. Examples of test equipment utilized by AFSC 362X1 personnel include hydrometers, multimeters, oscilloscopes, test desks, test jacks, and test lamps. A full computer listing of all equipment items and associated percent members performing is supplied in the Training Extract and should be used by training specialists to determine which types of equipment should be emphasized for first-term training.

Training Emphasis and Task Difficulty Data

Training emphasis (TE) and task difficulty (TD) data are secondary factors that can assist technical school personnel in deciding what tasks should be emphasized in entry-level training. These ratings, based on the judgments of senior career ladder NCOs working at operational units in the field, are collected to provide training personnel with a rank-ordering of those tasks considered important for first-term airman training (TE) (see Table 15 for the top rated tasks), along with a measure of the difficulty of those tasks (TD) (see the highest rated tasks presented in Table 16). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors, accompanied by moderate to high percentages performing, may warrant resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-term personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks. Various lists of tasks, accompanied by TE and TD ratings, are contained in the TRAINING EXTRACT package and should be reviewed in detail by technical school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the SURVEY METHODOLOGY section of this report.)

Specialty Training Standard (STS)

A comprehensive review of the STS 362X1, dated 9 February 1990, was made by comparing STS elements to survey data. STS elements with performance objectives were reviewed in terms of training emphasis, task difficulty, and percent members performing information as stipulated in ATCR 52-22, dated 17 February 1989. STS paragraphs containing general knowledge information, subject-matter knowledge requirements, or supervisory responsibilities were not reviewed. Typically, tasks performed by 20 percent or more of personnel

TABLE 13

EQUIPMENT USED OR OPERATED BY GREATER THAN
30 PERCENT OF AFSC 362X1 PERSONNEL

EQUIPMENT	PERCENT MEMBERS PERFORMING		
	1ST ENL (N=204)	DAFSC 36251 (N=394)	DAFSC 36271 (N=168)
AMPHENOL MAKERS	31	28	24
ATTENDANT CABINETS	49	45	41
BATTERIES	79	74	53
BATTERY CHARGERS	32	36	33
CHARGER & POWER BOARDS	34	36	32
COMMON BATTERY LINES	50	43	29
CONFERENCE UNITS	43	41	31
CRASH CONFERENCE NETS	60	57	34
DISTRIBUTING TERM ASSEM (DTA)	34	25	21
EQUIPMENT LINE CARDS	63	54	30
JUMPERS	90	83	58
LINE MODULE (LM) CONTROLLERS	32	31	22
MAINFRAMES	84	76	52
PATCH PANELS	45	44	27
POWER DISTRIBUTION CENTERS	21	30	27
PRINTERS	40	42	31
RECORDERS	39	36	22
RECTIFIER CHARGERS	42	41	29
RECTIFIER UNITS	57	55	35
REPEATERS	35	32	17
ROTARY SWITCHER: DECA SWITCHES	30	25	17
VISUAL DISPLAY UNITS (VDU)	33	36	25
WIRE WRAP GUNS	80	69	51

TABLE 14

TEST EQUIPMENT WORKED ON BY GREATER THAN 30 PERCENT OF AFSC 362X1 PERSONNEL

TEST EQUIPMENT	PERCENT MEMBERS PERFORMING		
	1ST ENL (N=204)	DAFSC 36251 (N=394)	DAFSC 36271 (N=168)
AUDIO OSCILLATORS	25	34	32
CURRENT FLOW TEST SETS	42	35	26
DECIBEL METERS	35	34	32
DIAL PULSE TESTERS	31	27	15
FREQUENCY COUNTERS	36	37	35
HANDSET TEST SETS	72	66	51
HEADSET TEST SETS	46	39	21
HYDROMETERS	63	62	44
MULTIMETERS	88	85	65
NOISE MEASURING TEST SETS	29	32	29
OSCILLOSCOPES	45	43	33
TELEPHONE HAND TEST SETS (BUTTSETS)	89	83	58
TEST DESKS	65	57	35
TEST JACKS	52	42	26
TEST LAMPS	49	39	30
VOLTMETERS	79	71	49
3550-B TEST SETS (TRI-PACKS)	49	45	41

TABLE 15

TASKS RATED HIGHEST IN TRAINING EMPHASIS (TE)

TASKS		TNG EMP*	PERCENT MEMBERS PERFORMING 1ST JOB (N=61)	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	TASK DIFF**
I367	TERMINATE JUMPERS	6.05	89	85	3.26
F244	SERVICE BATTERIES	6.00	56	53	4.20
E111	ANNOTATE AFTO FORMS 224 (CABLE RECORD)	5.95	79	72	3.25
E110	ANNOTATE AFTO FORMS 121 (TELEPHONE EQUIPMENT LINE RECORD)	5.93	70	68	3.07
E112	ANNOTATE AFTO FORMS 226 (MONTHLY STORAGE BATTERY RECORD)	5.85	67	66	3.21
F253	WRAP OR UNWRAP TERMINALS	5.80	89	85	2.80
G278	MEASURE VOLTAGE LEVELS	5.76	70	68	3.71
E107	ANNOTATE AF FORMS 2447 (TELEPHONE TROUBLE LOGS)	5.73	67	66	2.92
I357	REMOVE OR REPLACE JUMPERS	5.71	93	86	3.02
F208	CROSS-CONNECT INTERMEDIATE OR MAINFRAMES	5.66	80	72	3.61
E113	ANNOTATE AFTO FORMS 229 (TELEPHONE NUMBER ASSIGNMENT RECORD)	5.54	46	46	3.43
G277	MEASURE RESISTANCE LEVELS	5.37	69	58	3.82
E114	ANNOTATE AFTO FORMS 233 (CABLE TRANSFER WORKSHEET)	5.29	41	44	3.71
E163	LOCATE TO NUMBERS AND TITLES USING INDEXES	5.27	52	50	4.23
F213	INTERPRET DRAWINGS, DIAGRAMS, OR SCHEMATICS	5.27	52	51	5.67
E159	LOCATE INFORMATION IN ABBREVIATED TOs	5.17	54	44	3.88
E148	COMPLETE AFTO FORMS 376 (CIRCUIT LAYOUT RECORD/TROUBLE REPORT)	5.10	49	55	3.66
E161	LOCATE INFORMATION IN METHODS AND PROCEDURES TOs	5.02	54	46	4.29
F246	SOLDER TERMINALS USING HIGH RELIABILITY TECHNIQUES	5.02	46	41	5.20
H319	ISOLATE MALFUNCTIONS TO INTERMEDIATE OR MAINFRAMES	5.00	56	59	4.74
H322	ISOLATE MALFUNCTIONS TO JUMPERS	4.98	85	79	4.11
H348	PERFORM TRANSMISSION LEVEL TESTS	4.98	28	38	5.01
G287	REMOVE OR REPLACE FUSES	4.80	74	68	2.60

* TE has an average of 2.05 and a Standard Deviation of 2.49 (High TE=4.54)
** Average TD rating is 5.00, and the Standard Deviation is 1.00

TABLE 16

TASKS RATED HIGHEST IN TASK DIFFICULTY (TD)

TASKS		TASK DIFF*	PERCENT MEMBERS PERFORMING 1-48 TAFMS (N=204)	36251 (N=394)	36271 (N=168)	TNG EMPH
L420	SOLATE MALFUNCTIONS TO FIBER OPTIC MULTIPLEXES	7.17	2	4	1	1.80
L447	REMOVE OR REPLACE FIBER OPTIC BREAKOUT CABLES USING FUSION WELDING METHOD	7.13	0	1	1	.27
L423	ISOLATE MALFUNCTIONS TO OPTIC T-CARRIERS	7.05	3	3	1	1.68
L422	ISOLATE MALFUNCTIONS TO FIBER OPTIC REGENERATORS	7.01	0	1	0	1.37
L424	MACHINE POLISH FIBERS IN FIBER OPTIC CABLES	6.92	1	2	0	.98
L428	MEASURE DISTANCES USING OTDRs	6.87	1	3	4	1.17
L463	SPLICE SINGLE MODE FIBERS USING HAND TOOLS	6.85	0	2	1	.29
L464	SPLICE SINGLE MODE FIBERS USING POINT-TO-POINT METHOD	6.85	0	1	0	.29
R552	REMOVE OR REPLACE AUTOVON EQUIPMENT	6.83	16	12	7	1.73
L416	ISOLATE MALFUNCTIONS TO AERIAL FIBER OPTIC CABLE SPLICE HOUSINGS	6.82	0	0	0	1.07
L417	ISOLATE MALFUNCTIONS TO FIBER OPTIC CLUSTER UNITS	6.82	0	1	0	1.12
L418	ISOLATE MALFUNCTIONS TO FIBER OPTIC CONNECTORS	6.82	1	3	1	1.68
L419	ISOLATE MALFUNCTIONS TO FIBER OPTIC CROSSCONNECT PANELS	6.82	1	2	1	1.58
L421	ISOLATE MALFUNCTIONS TO FIBER OPTIC PATCH PANELS	6.82	1	2	1	1.80
R526	ISOLATE MALFUNCTIONS WITHIN AUTOVON EQUIPMENT	6.77	33	26	18	3.63
B47	WRITE STAFF STUDIES OR SPECIAL REPORTS	6.77	3	7	29	.34
L459	REMOVE OR REPLACE T-CARRIERS	6.75	0	2	2	1.15
L453	REMOVE OR REPLACE FIBER OPTIC CLUSTER UNITS	6.75	0	1	0	.12
L461	SPLICE FIBER OPTIC CABLES USING HAND TOOLS	6.75	1	2	1	.29
L462	SPLICE FIBER OPTIC CABLES USING POINT-TO-POINT METHOD	6.75	0	1	1	.29
C75	WRITE CIVILIAN PERFORMANCE APPRAISALS	6.75	0	2	20	.44

* TE has an average of 2.05 and a Standard Deviation of 2.49 (High TE=4.54)
** Average TD rating is 5.00, and the Standard Deviation is 1.00

in appropriate experience or skill level groups, such as first-enlistment (1-48 months TAFMS), and 5- and 7-skill level groups, should be considered for inclusion in the STS. Likewise, tasks with less than 20 percent performing in any of these groups should be considered for deletion from the STS.

STS paragraphs containing performance information were reviewed. In looking at paragraphs matched with survey tasks, data generally support the significant paragraphs or subparagraphs. A number of STS items did not meet the minimum 20 percent performing standard (see Table 17). For a complete listing of unsupported STS items, see appendix B. These paragraphs deal with Telephone Switching Equipment Installation (13), Communication Computer Facility Records (14), Base Wire System Performance (15), Four Wire Telephone Terminal Equipment For AUTOVON Interface Dial Central Offices (18), Digital Switching Systems (19), Fiber Optics (20), and Maintaining Vehicles (21). Training personnel and subject-matter experts should review these particular areas to determine if inclusion in future revisions to the STS is warranted.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. These were reviewed to determine if there were any tasks concentrated around any particular functions or jobs. There were 79 tasks not referenced to the STS. Many of the unreferenced tasks are managerial or supervisory in nature and are normally not matched to an STS. Examples of technical tasks performed by 20 percent or more respondents of the STS target groups, but which are not referenced to any STS element, are displayed in Table 18. Training personnel and subject-matter experts should review these and other eligible unreferenced tasks to determine if inclusion in the STS is justified.

ELECTRONIC PRINCIPLES

The Electronic Fundamentals paragraph of the STS and the electronic principles taught in the basic course can be examined using data from the Electronic Principles Inventory (EPI). The EPI is a knowledge-based inventory containing 1,366 questions in 63 electronics-related subject areas. It identifies the range of electronic principles personnel must understand to perform any electronics-related job. Table 19 lists the 15 electronic areas where 50 percent or more AFSC 36251 airmen responded "yes" to performing these functions in their job. These data can be useful to subject-matter experts when evaluating those portions of the STS concerning electronics fundamentals or principles.

TABLE 17

EXAMPLES OF AFSC 362X1 STS ITEMS NOT SUPPORTED BY OSR DATA

STS REFERENCE/TASKS	STS PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
13 C(1) INSTALL CABLE RACKS	b B					
I356 Remove or replace cable troughs or conduits		2.07	15	15	9	4.59
U663 Perform initial installation of cable runs		1.56	10	11	6	5.14
U664 Perform initial installations of cable troughs or conduits		1.12	7	7	5	5.11
19 C(4) MAINTENANCE AND ADMINISTRATION AREA (MAP)	B B					
T598 Coordinate patch downloads with commercial telephone companies		2.63	4	10	10	5.90
T599 Coordinate trunk downloads with commercial telephone companies		2.41	7	7	7	5.90
19 G(1) DATA BASE FACILITIES	A B					
S567 Compile digital switching systems (DSS) data		3.12	10	14	13	6.39
S570 Interpret DSS data		3.00	8	14	12	6.52
S573 Mount station message detail recording (SMDR) tapes		3.29	14	17	8	5.07
S590 Update call data		2.20	5	11	10	5.26

* TE has an average of 2.05 and a Standard Deviation of 2.49 (High TE=4.54)
** Average TD rating is 5.00, and the Standard Deviation is 1.00

TABLE 18

EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE GROUP MEMBERS AND NOT REFERENCED TO THE STS

TASKS		PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	DAFSC 36251 (N=394)	DAFSC 36271 (N=168)	TNG EMP*	TASK DIFF**
F235	REMOVE OR REPLACE INSIDE WIRING	60	51	21	3.83	4.17
H303	CROSS CHECK TELEPHONE ASSOCIATED EQUIPMENT	34	35	22	3.61	4.81
F203	ADJUST OR ALIGN SIGNAL FREQUENCY (SF) EQUIPMENT	23	23	23	4.46	5.53
F214	INTERPRET FLOOR PLANS	17	21	34	3.80	4.91
F221	PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMI)	22	24	14	3.61	4.42
T630	PERFORM PMI ON MAGNETIC TAPE DRIVES, SUCH AS LAMP, CAPSTAN, AND TRACKING CHECKS	19	24	11	3.51	4.72
E131	CHECK OUT OR RETURN TOOLS OR EQUIPMENT	47	42	27	3.51	2.57
F248	STRAIGHTEN TERMINAL BLOCK TERMINALS	40	39	20	3.68	2.97
E156	ESCORT PERSONNEL IN SECURE AREAS	59	61	42	2.95	2.88

* TE has an average of 2.05 and a Standard Deviation of 2.49 (High TE=4.54)
** Average TD rating is 5.00, and the Standard Deviation is 1.00

TABLE 19

ELECTRONICS PRINCIPLES USED BY 50 PERCENT
OR MORE OF DAFSC 36251 PERSONNEL

AC TERMS

ANALOG MULTIMETER

BASIC CIRCUITS

BASIC TERMS

CAPACITORS

CRIMP

DIGITAL MULTIMETER

DIRECT CURRENT TERMS

FREQUENCY COUNTER

MULTIPIN CONNECTORS

RELAYS/SOLENOIDS

RESISTORS

SOLDER/DESOLDER

SOLID STATE DIODES

TERMINAL CONNECTIONS

JOB SATISFACTION ANALYSIS

An examination of the job satisfaction indicators can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. Attitude questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in the survey booklet to provide indications of job satisfaction. The responses of the current survey sample were then analyzed by making several comparisons: (1) among TAFMS groups of the 362X1 career ladder and a comparative sample of personnel from other Mission Equipment Maintenance specialists surveyed in 1988 (AFSCs 302X0, 304X0, 304X1, 304X5, 306X0, 306X3, 321X0, 328X1, 411X0B, 427X1, 431X1, 431X2, 431X3, 431X4, 464X0); (2) between current and previous survey TAFMS groups; and (3) across specialty groups identified in the SPECIALTY JOBS section of the report.

First-enlistment (1-48 months TAFMS), second-enlistment (49-96 months TAFMS), and career (97+ months TAFMS) group data are listed in Table 20 and are compared to corresponding enlistment groups from other Mission Equipment Maintenance AFSCs surveyed during the previous calendar year. These data give a relative measure of how the job satisfaction of AFSC 362X1 personnel compares with that of other similar Air Force specialties. Generally, enlistment groups of the DAFSC 362X1 sample indicate slightly higher levels of job satisfaction than do those of the comparative sample. It was also noted that job interest, utilization of talents, and utilization of training of 362X1 personnel tend to decrease as experience increases. However, satisfaction for all three groups is still quite high. Overall, the high percentages of positive responses in these comparisons reflect a career ladder where personnel appear to be well satisfied with their jobs.

An indication of changes in job satisfaction perceptions within the career ladder is provided in Table 21, where TAFMS group data for 1989 survey respondents are presented along with data from respondents to the last occupational survey report of the career ladder in 1978. Generally, perceptions associated with job interest have improved for first- and second-enlistment personnel since the 1978 OSR. However, second-term and career groups seem to reflect lower numbers today in many categories. The most noticeable differences are in the career enlistment group with all areas lower for the 1989 survey.

Table 22 presents job satisfaction data for the major jobs (clusters and independent job types) identified in the career ladder structure for AFSC 362X1. An examination of this data can reveal the influences performing certain jobs may have on overall job satisfaction. Job satisfaction indicators for the specialty job groups suggest members across the career ladder are generally content. Five of the six jobs responded with high levels of satisfaction. However, 47 percent of the job control personnel described their jobs as "so-so" or "dull." Finally, reenlistment intentions for all jobs, except Digital Switching, are high with 64 percent or more indicating they will reenlist.

TABLE 20

COMPARISON OF TAFMS GROUP JOB SATISFACTION INDICATORS
(PERCENT MEMBERS PERFORMING)

	1-48 MOS TAFMS		49-96 MOS TAFMS		97+ MOS TAFMS	
	362X1 (N=204)	1988 COMP SAMPLE (N=6,152)	362X1 (N=211)	1988 COMP SAMPLE (N=4,464)	362X1 (N=213)	1988 COMP SAMPLE (N=6,451)
EXPRESSED JOB INTEREST:						
INTERESTING	80	72	79	71	76	73
SO-SO	10	17	11	16	15	16
DULL	9	10	9	12	8	10
PERCEIVED UTILIZATION OF TALENTS:						
FAIRLY WELL TO PERFECTLY	85	80	82	77	70	80
LITTLE OR NOT AT ALL	15	19	18	22	19	20
PERCEIVED UTILIZATION OF TRAINING:						
FAIRLY WELL TO PERFECTLY	76	72	73	74	71	74
LITTLE OR NOT AT ALL	24	18	27	26	28	26
SENSE OF ACCOMPLISHMENT FROM WORK:						
SATISFIED	75	72	78	66	70	67
NEUTRAL	11	12	9	12	7	11
DISSATISFIED	14	16	12	21	21	22
REENLISTMENT INTENTIONS:						
WILL/PROBABLY WILL REENLIST	62	59	65	69	76	74
WILL NOT/PROBABLY WILL NOT REENLIST	36	40	34	30	8	11
WILL RETIRE	1	*	1	*	15	14

* Denotes less than 1 percent

NOTE: Columns may not add to 100 percent due to nonresponse and rounding. Comparative sample is composed of all Mission Equipment Maintenance career ladders surveyed in 1988 (includes AFSCs 302X0, 304X0, 304X1, 304X5, 306X0, 306X3, 321X0, 328X0, 328X1, 411XOB, 411XOC, 427X1, 431X1, 431X2, 431X3, 431X4, 464X0)

TABLE 21

COMPARISON OF JOB SATISFACTION DATA
(PERCENT MEMBERS PERFORMING)

	1-48 MOS TAFMS		49-96 MOS TAFMS		97+ MOS TAFMS	
	1989 (N=204)	1978 (N=408)	1989 (N=211)	1978 (N=118)	1989 (N=213)	1978 (N=59)
EXPRESSED JOB INTEREST:						
INTERESTING	80	69	79	76	76	78
SO-SO	10	18	11	14	15	10
DULL	9	10	9	9	8	11
PERCEIVED UTILIZATION OF TALENTS:						
FAIRLY WELL TO PERFECTLY	85	78	82	84	70	80
LITTLE OR NOT AT ALL	15	21	18	14	19	20
PERCEIVED UTILIZATION OF TRAINING:						
FAIRLY WELL TO PERFECTLY	76	76	73	76	71	78
LITTLE OR NOT AT ALL	24	23	27	22	28	22
SENSE OF ACCOMPLISHMENT FROM WORK:						
SATISFIED	75	70	78	64	70	72
NEUTRAL	11	12	9	12	7	7
DISSATISFIED	14	18	12	19	21	15
REENLISTMENT INTENTIONS:						
WILL/PROBABLY WILL REENLIST	62	46	65	70	76	90
WILL NOT/PROBABLY WILL NOT REENLIST	36	50	34	26	8	10
WILL RETIRE	1	*	1	*	15	*

* *Information not available*

NOTE: Columns may not add to 100 percent due to nonresponse and rounding

TABLE 22

JOB SATISFACTION DATA FOR CLUSTERS AND INDEPENDENT JOB TYPES
(PERCENT MEMBERS PERFORMING)

	GENERAL MAINT	CABLE MAINT	DIGITAL SWITCHING	TRAINING	SUPV ADMIN	JOB CONTROL
EXPRESSED JOB INTEREST:						
INTERESTING	81	81	83	80	77	47
SO-SO	13	9	17	0	9	27
DULL	5	10	0	20	14	20
PERCEIVED UTILIZATION OF TALENTS:						
FAIRLY WELL TO PERFECTLY	84	79	83	100	75	80
LITTLE OR NOT AT ALL	15	21	17	0	25	20
PERCEIVED UTILIZATION OF TRAINING:						
FAIRLY WELL TO PERFECTLY	80	59	100	80	63	60
LITTLE OR NOT AT ALL	19	41	0	20	37	40
REENLISTMENT INTENTIONS:						
WILL/PROBABLY WILL REENLIST	67	64	33	100	65	87
WILL NOT/PROBABLY WILL NOT REENLIST	30	30	67	0	12	13
WILL RETIRE	3	5	0	0	20	0

NOTE: Columns may not add to 100 percent due to rounding or lack of response

ANALYSIS OF CONUS VERSUS OVERSEAS GROUPS

A comparison was made between the tasks performed and the background data for the DAFSC 362X1 personnel who were assigned within the CONUS versus those assigned to an overseas location. Results indicated that, while the job performed by both groups was basically the same, a few variations did exist. Those respondents who were assigned overseas reported performing a higher average number of tasks than those within the CONUS (119 versus 106).

There were some background differences between the two groups. Both groups reported similar paygrades and time in service, but there were distinguishable differences in job satisfaction indicators. While perceptions of job interest and accomplishment from the job were fairly equal, CONUS personnel expressed higher satisfaction in the use of talents and training. Seventy-five percent of CONUS respondents felt their talents were adequately utilized. Only 67 percent of overseas personnel felt the same way. In the utilization of training, 65 percent of overseas respondents felt their training was effectively utilized, while 77 percent of CONUS respondents answered positively. For reenlistment intentions, overseas personnel were slightly higher in favoring reenlistment (69 percent versus 65 percent).

IMPLICATIONS

As explained in the INTRODUCTION, this survey was conducted primarily to provide training personnel with current information on the Telephone Switching specialty for use in reviewing current training programs and training documents.

The findings of this survey suggest that the Telephone Switching Specialty is a homogeneous and stable career ladder. The present classification structure, as described by the AFR 39-1 Specialty Descriptions, accurately portrays the jobs in this study.

Analysis of career ladder documents indicates the STS is generally supported by survey data, although several areas were not. Training personnel and subject-matter experts should review these areas to determine if inclusion is warranted in any revisions to the document. Tasks not referenced to the STS should also be reviewed by training personnel and subject-matter experts to determine if new areas should be added to this document.

No serious job satisfaction problems appear to exist within this specialty. Overall, job satisfaction responses were almost all higher than that of a comparative sample of Air Force personnel in 1988 and exceeded those of a comparative sample for the 1-48 month group, but were slightly lower for the 49-96 month and 97+ month group in the 1978 study.

The findings of this OSR come directly from the survey data collected from Telephone Switching Personnel worldwide. These data are readily available to training and utilization personnel, functional managers, and any other interested parties having a need for such information. Much of the data are compiled into extracts which are excellent tools in the decision-making process. These data extracts should be used when training or utilization decisions are made.

APPENDIX A

SELECTED REPRESENTATIVE TASKS PERFORMED BY CAREER LADDER SPECIALTY JOB GROUPS

TABLE I

GENERAL MAINTENANCE CLUSTER
STG38

GROUP SIZE: 388
PERCENT OF SAMPLE: 62%
PREDOMINANT PAYGRADES: E-4

AVERAGE TAFMS: 74 MONTHS
AVERAGE TICF: 67 MONTHS
PERCENT IN 1ST ENL: 38%

TASKS		PERCENT MEMBERS PERFORMING
I357	REMOVE OR REPLACE JUMPERS	91
I367	TERMINATE JUMPERS	91
F253	WRAP OR UNWRAP TERMINALS	90
H322	ISOLATE MALFUNCTIONS TO JUMPERS	90
E133	CLEAN FACILITIES OR WORK AREAS	84
E107	ANNOTATE AF FORMS 2447 (TELEPHONE TROUBLE RECORD)	83
E111	ANNOTATE AFTO FORMS 224 (CABLE RECORD)	83
E112	ANNOTATE AFTO FORMS 226 (MONTHLY STORAGE BATTERY RECORD)	81
E110	ANNOTATE AFTO FORMS 121 (TELEPHONE EQUIPMENT LINE RECORD)	80
F208	CROSS-CONNECT INTERMEDIATE OR MAINFRAMES	79
G278	MEASURE VOLTAGE LEVELS	77
G287	REMOVE OR REPLACE FUSES	75
N479	INSPECT BATTERIES FOR CORROSION	74
E148	COMPLETE AFTO FORMS 376 (CIRCUIT LAYOUT RECORD/TROUBLE REPORT)	73
H315	ISOLATE MALFUNCTIONS TO DIRECT LINES	73
N483	INSPECT FRAMES FOR CORROSION	72
E156	ESCORT PERSONNEL IN SECURE AREAS	71
H319	ISOLATE MALFUNCTIONS TO INTERMEDIATE OR MAINFRAMES	70
G277	MEASURE RESISTANCE LEVELS	69
F222	PERFORM PMI ON INTERMEDIATE OR MAINFRAMES	67
F244	SERVICE BATTERIES	67
A6	COORDINATE JOBS, OUTAGES, OR MAINTENANCE WITH JOB CONTROL	66
I369	WIRE-WRAP OR LACE WIRES	65
F218	OPERATE PRINTERS	64
H318	ISOLATE MALFUNCTIONS TO INSIDE WIRING	63
J378	ISOLATE MALFUNCTIONS TO FIRE ALARM CIRCUITS	61
H313	ISOLATE MALFUNCTIONS TO DIAL LINES	61

TABLE II

ENGINEERING AND INSTALLATION CLUSTER
STG34

GROUP SIZE: 80
PERCENT OF SAMPLE: 13%
PREDOMINANT PAYGRADES: E-4

AVERAGE TAFMS: 73 MONTHS
AVERAGE TICF: 67 MONTHS
PERCENT IN 1ST ENL: 43%

TASKS		PERCENT MEMBERS PERFORMING
I353	MARK, CUT, STRIP, AND BUTT CABLES	96
I350	FORM CABLES	90
I369	WIRE-WRAP OR LACE WIRES	89
I367	TERMINATE JUMPERS	89
I357	REMOVE OR REPLACE JUMPERS	89
I349	FAN CABLES	89
F253	WRAP OR UNWRAP CABLES	88
I360	SECURE CABLES	85
I364	TERMINATE CABLES BY CONSTRUCTING AMPHENOL CONNECTORS	85
I368	WIRE-WRAP OR LACE CABLES	85
I366	TERMINATE CABLES WITH PUNCH-ON DEVICES	85
I365	TERMINATE CABLES BY SOLDERING	84
F209	DRILL HOLES FOR MOUNTINGS OR CABLE RUNS	79
I355	REMOVE OR REPLACE CABLE RUNS	79
F213	INTERPRET DRAWINGS, DIAGRAMS OR SCHEMATICS	79
F208	CROSS-CONNECT INTERMEDIATE OR MAINFRAMES	76
I358	REMOVE OR REPLACE STRAPS ON TERMINALS	69
E164	MAINTAIN TOOL KITS	68
F217	MOVE FURNITURE FOR INSTALLATION OF EQUIPMENT	68
H322	ISOLATE MALFUNCTIONS TO JUMPERS	66
I356	REMOVE OR REPLACE CABLE TROUGHS OR CONDUITS	66
F235	REMOVE OR REPLACE INSIDE WIRING	65
F206	CONNECT OR DISCONNECT INSIDE CABLES TO OR FROM CONNECTING BLOCKS OR JUNCTION BOXES	65
I359	REMOVE OR REPLACE TWISTED PAIR CABLES	64
E131	CHECK OUT OR RETURN TOOLS OR EQUIPMENT	63
G278	MEASURE VOLTAGE LEVELS	61
F214	INTERPRET FLOOR PLANS	59
H318	ISOLATE MALFUNCTIONS TO INSIDE WIRING	59
E165	PAINT STENCILED MARKINGS ON EQUIPMENT	59
I363	SPLICE WIRES	

TABLE III

DIGITAL SWITCHING IJT
STG103

GROUP SIZE: 6
PERCENT OF SAMPLE: LESS THAN 1 PERCENT
PREDOMINANT PAYGRADES: E-4

AVERAGE TAFMS: 77 MONTHS
AVERAGE TICF: 59 MONTHS
PERCENT IN 1ST ENL: 44%

TASKS		PERCENT MEMBERS PERFORMING
S100	OPERATE MAINTENANCE AREA POSITIONS	100
F218	OPERATE PRINTERS	100
S587	REVIEW SYSTEM LOGS	100
S588	REVIEW TRUNK REPORTS	100
T597	CHECK DIAGNOSTIC FAILURES USING VIDEO DISPLAY UNITS (VDU)	100
A6	COORDINATE JOBS, OUTAGES, OR MAINTENANCE WITH JOB CONTROL	100
T613	ISOLATE MALFUNCTIONS TO LINE MODULES	100
T600	ISOLATE MALFUNCTIONS TO CENTRAL MESSAGE CONTROLLERS	100
T601	ISOLATE MALFUNCTIONS TO CENTRAL PROCESSING UNITS	100
F219	OPERATE VIDEO DISPLAY UNITS (VDU)	84
S589	TAKE SOFTWARE IMAGES	84
S579	RESEARCH PERFORMANCE ORIENTED PRACTICES (POP)	84
S580	RESEARCH TASK ORIENTED PRACTICES (TOP)	84
T611	ISOLATE MALFUNCTIONS TO LINE MODULES	84
E133	CLEAN FACILITIES OR WORK AREAS	84
T621	ISOLATE MALFUNCTIONS TO TRUNK MODULES	84
T608	ISOLATE MALFUNCTIONS TO INPUT/OUTPUT CONTROLLERS (IOC)	84
T602	ISOLATE MALFUNCTIONS TO CHANNEL BANKS	84
T610	ISOLATE MALFUNCTIONS TO LINE-CONCENTRATING DRAWERS	84
T612	ISOLATE MALFUNCTIONS TO MAGNETIC TAPE DRIVE UNITS	84
S576	PERFORM BUSY-OUT PROCEDURES	67
E188	UNPACK OR VERIFY RECEIVED MATERIAL	67
S573	MOUNT STATION MESSAGE DETAIL RECORDING (SMDR) TAPES	67
F220	PACK OR TAG COMPONENTS OR SPARE PARTS	67
T617	ISOLATE MALFUNCTIONS TO PRESET CONFERENCES	67
S585	REVIEW OM REPORTS	67

TABLE IV

TECHNICAL TRAINING IJT
STG72

GROUP SIZE: 5
PERCENT OF SAMPLE: LESS THAN 1 PERCENT
PREDOMINANT PAYGRADES: E-5

AVERAGE TAFMS: 118 MONTHS
AVERAGE TICF: 115 MONTHS
PERCENT IN 1ST ENL: 20%

TASKS		PERCENT MEMBERS PERFORMING
D97	SCORE TESTS	100
D94	PREPARE LESSON PLANS	100
D101	WRITE TEST QUESTIONS	100
D76	ADMINISTER TESTS	100
D80	CONDUCT RESIDENT COURSE CLASSROOM TRAINING	80
D91	EVALUATE PROGRESS OF RESIDENT COURSE STUDENTS	80
D81	CONDUCT SKILL PERFORMANCE TESTS	80
D93	PERFORM TEST ANALYSES	80
E133	CLEAN FACILITIES OR WORK AREAS	80
D87	DEVELOP RESIDENT COURSE CURRICULUM MATERIALS, SUCH AS PLANS OF INSTRUCTION OR SPECIALTY TRAINING STANDARDS	60
C49	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	60
E131	CHECK OUT OR RETURN TOOLS OR EQUIPMENT	60
G277	MEASURE RESISTANCE LEVELS	60
G278	MEASURE VOLTAGE LEVELS	60
D83	CONSTRUCT TRAINING AIDS	60
E107	ANNOTATE AF FORMS 2447 (TELEPHONE TROUBLE LOG)	60
D84	COUNSEL TRAINERS OR TRAINEES ON TRAINING PROCEDURES	40
D95	PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	40
A14	DEVELOP TABLES, GRAPHS, OR DIAGRAMS, OTHER THAN ORGANIZATIONAL CHARTS OR STATUS BOARDS	40

TABLE V

SUPERVISION AND ADMINISTRATION CLUSTER
STG13

GROUP SIZE: 69
PERCENT OF SAMPLE: 11%
PREDOMINANT PAYGRADES: E-6

AVERAGE TAFMS: 176 MONTHS
AVERAGE TICF: 161 MONTHS
PERCENT IN 1ST ENL: 3%

TASKS		PERCENT MEMBERS PERFORMING
C51	EVALUATE INSPECTION REPORT FINDINGS OR PROCEDURES	67
C66	REVIEW CORRESPONDENCE	61
B40	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR PERSONNEL	61
C53	EVALUATE PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	61
C49	COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED MATTERS	60
A8	COORDINATE QUALITY CONTROL (QC) OR QUALITY ASSURANCE (QA) INSPECTIONS WITH INSPECTORS	58
A3	CONDUCT MEETINGS, SUCH AS STAFF MEETINGS, COUNCIL MEETINGS, OR BOARD MEETINGS	58
A23	PREPARE BRIEFINGS	55
C54	EVALUATE PERSONNEL FOR COMPLIANCE WITH SAFETY STANDARDS	55
C74	WRITE APRs	52
C69	REVIEW OR INDORSE AIRMAN PROMOTION REPORTS (APR)	50
C63	PERFORM SELF-INSPECTIONS	50
A13	DETERMINE WORK PRIORITIES	49
A24	SCHEDULE INSPECTIONS	49
B47	WRITE STAFF STUDIES OR SPECIAL REPORTS	49
A25	SCHEDULE LEAVES OR TEMPORARY DUTY (TDY) ASSIGNMENTS	48
A17	ESTABLISH PERFORMANCE STANDARDS FOR PERSONNEL	46
A9	DETERMINE EQUIPMENT OR SUPPLY REQUIREMENTS	45
B45	SUPERVISE TELEPHONE SWITCHING SPECIALISTS (AFSC 36251)	44
C50	EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION	44

TABLE VI

JOB CONTROL IJT
STG47

GROUP SIZE: 15
PERCENT OF SAMPLE: LESS THAN 1%
PREDOMINANT PAYGRADES: E-4

AVERAGE TAFMS: 62 MONTHS
AVERAGE TICF: 54 MONTHS
PERCENT IN 1ST ENL: 47%

TASKS		PERCENT MEMBERS PERFORMING
0490	ASSIGN JOB CONTROL NUMBERS	87
A26	UPDATE ORGANIZTIONAL CHARTS OR STATUS BOARDS	80
0493	COORDINATE TROUBLESHOOTING WITH INSIDE AND OUTSIDE PLANT CREWS	73
A13	DETERMINE WORK PRIORITIES	73
A23	PREPARE BRIEFINGS	67
E156	ESCORT PERSONNEL IN SECURE AREAS	67
B31	DIRECT MAINTENANCE OF EQUIPMENT OR SUPPLIES	60
E137	COMPLETE AF FORMS 1297 (TEMPORARY ISSUE RECEIPT)	60
E133	CLEAN FACILITIES OR WORK AREAS	60
E107	ANNOTATE AF FORMS 2447 (TELEPHONE TROUBLE LOG)	53
A6	COORDINATE JOBS, OUTAGES, OR MAINTENANCE WITH JOB CONTROL	47
0489	ANALYZE EQUIPMENT OUTAGES AND MALFUNCTION REPORTS	40
F219	OPERATE VIDEO DISPLAY UNITS (VDU)	40
M469	DISPATCH CREWS TO WORK PROJECTS	33
F218	OPERATE PRINTERS	33
0498	WRITE MISSION IMPAIRMENT REPORTS	33

APPENDIX B
AFSC 362X1 STS ITEMS
NOT SUPPORTED BY OSR DATA

TABLE I

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
13 C(1) INSTALL CABLE RACKS	B B					
I356 REMOVE OR REPLACE CABLE TROUGHS OR CONDUITS		2.07	15	15	9	4.59
U663 PERFORM INITIAL INSTALLATION OF CABLE RUNS		1.56	10	11	6	5.14
U664 PERFORM INITIAL INSTALLATIONS OF CABLE TROUGHS OR CONDUITS		1.12	7	7	5	5.11
13 C(2) INSTALL METAL DUCTS	- B					
I356 REMOVE OR REPLACE CABLE TROUGHS OR CONDUITS		2.07	15	15	9	4.59
U663 PERFORM INITIAL INSTALLATION OF CABLE RUNS		1.56	10	11	6	5.14
U664 PERFORM INITIAL INSTALLATIONS OF CABLE TROUGHS OR CONDUITS		1.12	7	7	5	5.11
13 C(3) INSTALL CONDUITS	- B					
I356 REMOVE OR REPLACE CABLE TROUGHS OR CONDUITS		2.07	15	15	9	4.59
U662 PERFORM INITIAL INSTALLATIONS OF CABLE IN UNDERFLOOR CONDUIT SYSTEMS		.93	6	7	3	5.31
U663 PERFORM INITIAL INSTALLATION OF CABLE RUNS		1.56	10	11	6	5.14
U664 PERFORM INITIAL INSTALLATIONS OF CABLE TROUGHS OR CONDUITS		1.12	7	7	5	5.11
13 E(2) RECTIFIERS	- -					
F211 GROUND POWER SUPPLIES		2.90	19	15	7	4.03
13 E(3) POWER DISTRIBUTION PANEL	- -					
F211 GROUND POWER SUPPLIES		2.90	19	15	7	4.03

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
13 E(4)(A) CONNECT POWER LEADS (STRAIGHT)	- -					
F211 GROUND POWER SUPPLIES		2.90	19	15	7	4.03
13 E(4)(B) CONNECT POWER LEADS(PARALLEL)	- -					
F211 GROUND POWER SUPPLIES		2.90	19	15	7	4.03
13 E(4)(C) CONNECT POWER LEADS(BRANCHING)	- -					
F211 GROUND POWER SUPPLIES		2.90	19	15	7	4.03
14 B(1) CABLE PLANT CONFIGURATION	A B					
I352 IDENTIFY CABLE TYPES		2.71	17	17	10	4.44
E118 ANNOTATE CUSTOMER SERVICE REQUEST (CSR) LOGS		1.51	3	9	9	3.90
E191 UPDATE MASTER CABLE DRAWINGS		1.66	7	6	10	5.12
14 B(2) CABLE PLANT RECORDS	A B					
I352 IDENTIFY CABLE TYPES		2.71	17	17	10	4.44
E118 ANNOTATE CUSTOMER SERVICE REQUEST (CSR) LOGS		1.51	3	9	9	3.90
E191 UPDATE MASTER CABLE DRAWINGS		1.66	7	6	10	5.12
15 A WIRE TRANSMISSION PRINCIPLES	B B					
I352 IDENTIFY CABLE TYPES		2.71	17	17	10	4.44
18 B OPERATE TRUNK APPLIQUE TEST SET	- B					
R536 OPERATE TRUNK APPLIQUE TEST SET		1.78	10	9	5	5.31

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
19 C(4) MAINTENANCE AND ADMINISTRATION AREA (MAP)	B B					
T598 COORDINATE PATCH DOWNLOADS WITH COMMERCIAL TELEPHONE COMPANIES		2.63	4	10	10	5.90
T599 COORDINATE TRUNK DOWNLOAD WITH COMMERCIAL TELEPHONE COMPANIES		2.41	7	7	7	5.90
19 C(5)(A) LAND MOBILE RADIO NET	- B					
T609 ISOLATE MALFUNCTIONS TO MOBILE RADIO NETS		2.59	11	15	11	5.95
19 C(5)(B) PRE-SET CONFERENCE	- B					
T614 ISOLATE MALFUNCTIONS TO MEET-ME CONFERENCES		3.22	5	12	9	5.95
T617 ISOLATE MALFUNCTIONS TO PRESENT CONFERENCES		3.39	15	22	11	5.92
19 C(5)(C) POCKET PAGER	- B					
T616 ISOLATE MALFUNCTIONS TO POCKET PAGER		2.05	5	8	7	5.59
19 C(5)(D) POWER EQUIPMENT	B B					
F202 ADJUST OR ALIGN EQUALIZER CHARGING LOADS		2.93	7	9	8	5.89
H316 ISOLATE MALFUNCTIONS TO EQUALIZER CHARGING LOADS		2.10	2	6	8	6.13
19 C(5)(F) CHANNEL BANK EQUIPMENT	B B					
H323 ISOLATE MALFUNCTIONS TO LINE FILTERS		2.17	5	5	6	5.18

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
19 C(5)(G) T-SPAN EQUIPMENT	B B					
H323 ISOLATE MALFUNCTIONS TO LINE FILTERS		2.17	5	5	6	5.18
19 C(5)(H) MODEMS	- B					
H314 ISOLATE MALFUNCTIONS TO DIGITAL MODEMS		2.05	17	19	13	6.06
19 D(4) MAGNETIC TAPE DRIVE UNIT	B B					
S574 MOUNT SYSTEM GENERIC TAPES		2.80	9	13	11	4.92
H329 ISOLATE MALFUNCTIONS TO RECORDERS		1.68	14	17	6	5.90
19 E(3) EQUIPMENT ALARMS	B B					
T626 PERFORM PMI ON DSS ALARM SYSTEMS		3.07	7	12	5	4.58
19 F(5)(A) POWER EQUIPMENT	- B					
F215 ISOLATE MALFUNCTIONS TO POWER SUPPLIES		2.63	13	14	12	6.10
G263 ADJUST OR ALIGN RECTIFIERS		2.41	9	9	8	5.78
H325 ISOLATE MALFUNCTIONS TO MULTI-LINE LINKS		2.24	9	10	8	5.63
H335 ISOLATE MALFUNCTIONS TO SUB-CYCLE GENERATORS		1.66	6	7	6	5.68
19 G(1) DATA BASE FACILITIES	A B					
S567 COMPILE DIGITAL SWITCHING SYSTEMS (DSS) DATA		3.12	10	14	13	6.39
S570 INTERPRET DSS DATA		3.00	8	14	12	6.52
S573 MOUNT STATION MESSAGE DETAIL RECORDING (SMDR) TAPES		3.29	14	17	8	5.07
S590 UPDATE CALL DATA		2.20	5	11	10	5.26

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
19 G(2) DATA TABLES	A B					
Q516 PROGRAM TRUNKS		3.00	7	15	13	5.46
S567 COMPILE DIGITAL SWITCHING SYSTEMS (DSS) DATA		3.12	10	14	13	6.39
S572 MOUNT JOURNAL FILES		3.07	14	18	11	5.18
S573 MOUNT STATION MESSAGE DETAIL RECORDING (SMDR) TAPES		3.29	14	17	8	5.07
S590 UPDATE CALL DATA		2.20	5	11	10	5.26
20 C(1) PRINCIPLES OF INSTALLATION PLACEMENT (UNDERGROUND)	- -					
L449 REMOVE OR REPLACE FIBER OPTIC CABLES UNDERGROUND USING ONE DIRECTION HAND PULL METHOD		.02	0	1	0	6.17
L429 MEASURE MAXIMUM PULLING TENSION IN FIBER OPTIC CABLES		.12	0	1	1	6.59
L431 OFF REEL FIBER OPTIC CABLES IN FIGURE 8 LOOP		.02	0	2	2	5.90
L432 OPERATE FIBER OPTIC SPLICING TRAILERS		.02	0	1	0	6.55
L437 PREPARE FIBER OPTIC CABLE REEL TRUNKS		.02	0	1	0	6.04
L450 REMOVE OR REPLACE FIBER OPTIC CABLES UNDERGROUND USING ONE DIRECTION MACHINE PULL METHOD		.02	0	0	0	6.40
L451 REMOVE OR REPLACE FIBER OPTIC CABLES UNDERGROUND USING TWO DIRECTION HAND PULL METHOD		.02	0	1	1	6.40
L452 REMOVE OR REPLACE FIBER OPTIC CABLES UNDERGROUND USING TWO DIRECTION MACHINE PULL METHOD		.02	0	0	0	6.64

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
20 C(2) PRINCIPLES OF INSTALLATION (AERIAL)	- -					
L416 ISOLATE MALFUNCTIONS TO AERIAL FIBER OPTIC CABLE SPLICE HOUSING		1.07	0	0	0	6.82
L429 MEASURE MAXIMUM PULLING TENSION IN FIBER OPTIC CABLES		.12	0	1	1	6.59
L431 OFF REEL FIBER OPTIC CABLES IN FIGURE 8 LOOP		.02	0	2	2	5.90
L432 OPERATE FIBER OPTIC SPLICING TRAILERS		.02	0	1	0	6.55
L437 PREPARE FIBER OPTIC CABLE REEL TRUNKS		.02	0	1	0	6.04
L443 REMOVE OR REPLACE AERIAL FIBER OPTIC CABLE SPLICE HOUSING		.12	0	0	0	6.57
L444 REMOVE OR REPLACE AERIAL FIBER OPTIC CABLES		.12	0	0	0	6.46
20 C(3) PRINCIPLES OF INSTALLATION PLACEMENT (DIRECT BURIED)	- -					
L429 MEASURE MAXIMUM PULLING TENSION IN FIBER OPTIC CABLES		.12	0	1	1	6.59
L431 OFF REEL FIBER OPTIC CABLES IN FIGURE 8 LOOP		.02	0	2	2	5.90
L432 OPERATE FIBER OPTIC SPLICING TRAILERS		.02	0	1	0	6.55
L437 PREPARE FIBER OPTIC CABLE REEL TRUNKS		.02	0	1	0	6.04
20 C(4) PRINCIPLES OF INSTALLATION PLACEMENT (PLOWED)	- -					
L445 REMOVE OR REPLACE BURIED FIBER OPTIC CABLES USING PLOWING METHOD		.27	0	0	0	6.64

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
20 D(1)SPLICE POINT SET-UP	- -					
L435 PREPARE ARMOR SHIELDED FIBER OPTIC CABLES FOR SPLICING COATING		.12	1	1	0	6.41
L436 PREPARE DOUBLE SHEATH FIBER OPTIC CABLES FOR SPLICING		.12	1	1	1	6.51
L438 PREPARE FIBER OPTIC CABLES FOR MOUNTING		.12	1	2	1	6.04
L440 PREPARE METALLIC SHIELDED FIBER OPTIC CABLES FOR SPLICING		.37	0	1	1	6.62
L441 PREPARE NONMETALLIC SHIELDED FIBER OPTIC CABLES FOR SPLICING		.34	0	1	1	6.62
L442 PREPARE SINGLE SHEATH FIBER OPTIC CABLES FOR SPLICING		.34	1	2	1	6.57
L439 PREPARE FLOOD RESISTANT FIBER OPTIC CABLES FOR SPLICING		.12	0	0	1	6.55
L465 TERMINATE FIBER OPTIC STRENGTH MEMBERS		.32	0	1	0	6.50
20 D(2) SPLICING TECHNIQUES (HAND TOOLS)	- -					
L414 HAND POLISH FIBER OPTIC CONNECTORS		1.10	2	3	2	5.90
L415 HAND POLISH FIBERS IN FIBER OPTIC CABLES		1.07	2	3	2	6.44
L461 SPLICE FIBER OPTIC CABLES USING HAND TOOLS		.29	1	2	1	6.75
L463 SPLICE SINGLE MODE FIBERS USING HAND TOOLS		.29	0	2	1	6.85
20 D(3)(A) MECHANICAL CONNECTOR (WET SPLICE)	- -					
L414 HAND POLISH FIBER OPTIC CONNECTORS		1.10	2	3	2	5.90
L415 HAND POLISH FIBERS IN FIBER OPTIC CABLES		1.07	2	3	2	6.44
L424 MACHINE POLISH FIBERS IN FIBER OPTIC CABLES		.98	1	2	0	6.92
L454 REMOVE OR REPLACE FIBER OPTIC CONNECTORS		.88	0	2	3	6.61
L466 WET SPLICE CABLES		.27	0	1	1	6.71

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
20 D(3)(B) MECHANICAL CONNECTOR (DRY SPLICE)	- -					
L413 DRY SPLICE CABLES		.68	2	3	2	6.23
L414 HAND POLISH FIBER OPTIC CONNECTORS		1.10	2	3	2	5.90
L415 HAND POLISH FIBERS IN FIBER OPTIC CABLES		1.07	2	3	2	6.44
L424 MACHINE POLISH FIBERS IN FIBER OPTIC CABLES		.98	1	2	0	6.92
L454 REMOVE OR REPLACE FIBER OPTIC CONNECTORS		.88	0	2	3	6.61
20 D(3)(C) MECHANICAL CONNECTOR (FUSION SPLICE)	- -					
L424 MACHINE POLISH FIBERS IN FIBER OPTIC CABLES		.98	1	2	0	6.92
L447 REMOVE OR REPLACE FIBER OPTIC BREAKOUT CABLES USING FUSION WELDING METHOD		.27	0	1	1	7.13
20 E SPLICE CLOSURES	- -					
L460 SEAL OPTIC SPLICES		.10	1	2	0	6.40
20 F(1) USE OPTICAL TIME DOMAIN REFLECTOMETER	- -					
L425 MEASURE ATTENUATION USING OPTICAL TIME DOMAIN REFLECTOMETERS (OTDR)		1.24	1	3	4	6.73
L428 MEASURE DISTANCES USING OTDRS		1.17	1	3	4	6.87
L430 MEASURE SPLICE LOSS USING OTDRS		1.02	1	3	2	6.53
L416 ISOLATE MALFUNCTIONS TO AERIAL FIBER OPTIC CABLE SPLICE HOUSINGS		1.07	0	0	0	6.82
20 F(2) USE OPTICAL POWER METER	- -					
L426 MEASURE CONNECTOR LOSS USING OPTICAL POWER MULTIMETER SINGLE METER METHOD		1.07	2	3	2	6.73
L427 MEASURE CONNECTOR LOSS USING OPTICAL POWER MULTIMETER TWO METER METHOD		.73	1	3	3	6.73
L416 ISOLATE MALFUNCTIONS TO AERIAL FIBER OPTIC CABLE SPLICE HOUSINGS		1.07	0	0	0	6.82

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
20 F(3) FIBER OPTIC VOICE COMMUNICATION SET	- -					
L433 OPERATE FIBER OPTIC TALK SETS		.41	0	0	0	6.08
L416 ISOLATE MALFUNCTIONS TO AERIAL FIBER OPTIC CABLE SPLICE HOUSINGS		1.07	0	0	0	6.82
20 G(3)(A) SPLICE TRAY (MECHANICAL CONNECTOR)	- -					
L412 CONNECT OR DISCONNECT FIBER OPTIC CABLES TO OR FROM INTERFACE EQUIPMENT		1.32	4	5	3	5.51
L414 HAND POLISH FIBER OPTIC CONNECTORS		1.10	2	3	2	5.90
L415 HAND POLISH FIBERS IN FIBER OPTIC CABLES		1.07	2	3	2	6.44
L418 ISOLATE MALFUNCTIONS TO FIBER OPTIC CABLES		1.68	1	3	1	6.82
L424 MACHINE POLISH FIBERS IN FIBER OPTIC CABLES		.98	1	2	0	6.92
20 G(3)(B) SPLICE TRAY (FUSION)	- -					
L412 CONNECT OR DISCONNECT FIBER OPTIC CABLES TO OR FROM INTERFACE EQUIPMENT		1.32	4	5	3	5.51
L414 HAND POLISH FIBER OPTIC CONNECTORS		1.10	2	3	2	5.90
L415 HAND POLISH FIBERS IN FIBER OPTIC CABLES		1.07	2	3	2	6.44
L424 MACHINE POLISH FIBERS IN FIBER OPTIC CABLES		.98	1	2	0	6.92
20 H(1) TROUBLESHOOT FIBER OPTIC MODEMS (ANALOG)	- -					
L419 ISOLATE MALFUNCTIONS TO FIBER OPTIC CROSSCONNECT PANELS		1.59	1	2	1	6.82
L420 ISOLATE MALFUNCTIONS TO FIBER OPTIC MULTIPLEXERS		1.80	2	4	1	7.17
L421 ISOLATE MALFUNCTIONS TO FIBER OPTIC PATCH PANELS		1.80	1	2	1	6.82

TABLE I (CONTINUED)

STS REFERENCE/TASKS	PROF CODE	TNG EMP*	PERCENT MEMBERS PERFORMING 1ST ENL (N=204)	5-SKILL LEVEL (N=394)	7-SKILL LEVEL (N=168)	TASK DIFF**
20 H(2) TROUBLESHOOT FIBER OPTIC MODEMS (DIGITAL)	- -					
L419 ISOLATE MALFUNCTIONS TO FIBER OPTIC CROSSCONNECT PANELS		1.59	1	2	1	6.82
L420 ISOLATE MALFUNCTIONS TO FIBER OPTIC MULTIPLEXERS		1.80	2	4	1	7.17
L421 ISOLATE MALFUNCTIONS TO FIBER OPTIC PATCH PANELS		1.80	1	2	1	6.82
20 I TROUBLESHOOT T-CARRIER EQUIPMENT	- -					
L419 ISOLATE MALFUNCTIONS TO FIBER OPTIC CROSSCONNECT PANELS		1.59	1	2	1	6.82
L420 ISOLATE MALFUNCTIONS TO FIBER OPTIC MULTIPLEXERS		1.80	2	4	1	7.17
L421 ISOLATE MALFUNCTIONS TO FIBER OPTIC PATCH PANELS		1.80	1	2	1	6.82
L423 ISOLATE MALFUNCTIONS TO OPTIC T-CARRIERS		1.68	3	3	1	7.05
L422 ISOLATE MALFUNCTIONS TO FIBER OPTIC REGENERATORS		1.37	0	1	0	7.01
21 A DRIVER SAFETY PRACTICES	- -					
E200 WRITE ACCIDENT REPORTS		.54	4	6	8	5.18